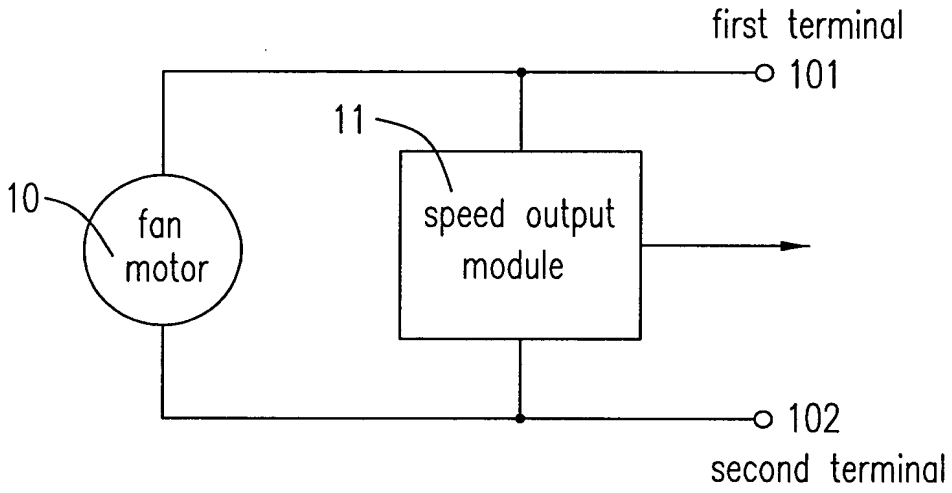

Fig. 1 (PRIOR ART)

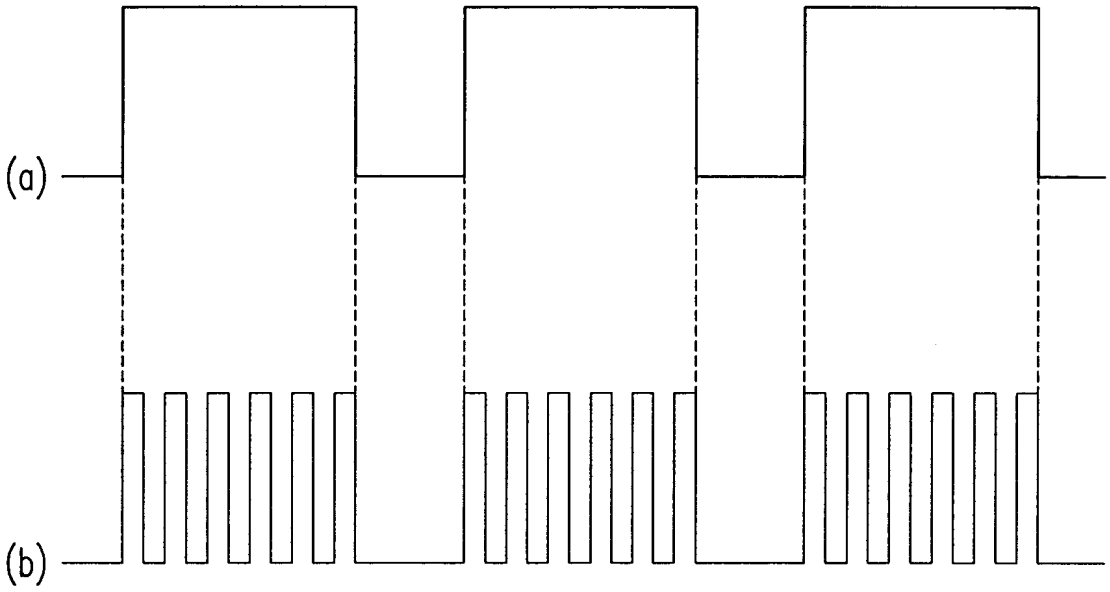

Fig. 2(PRIOR ART)

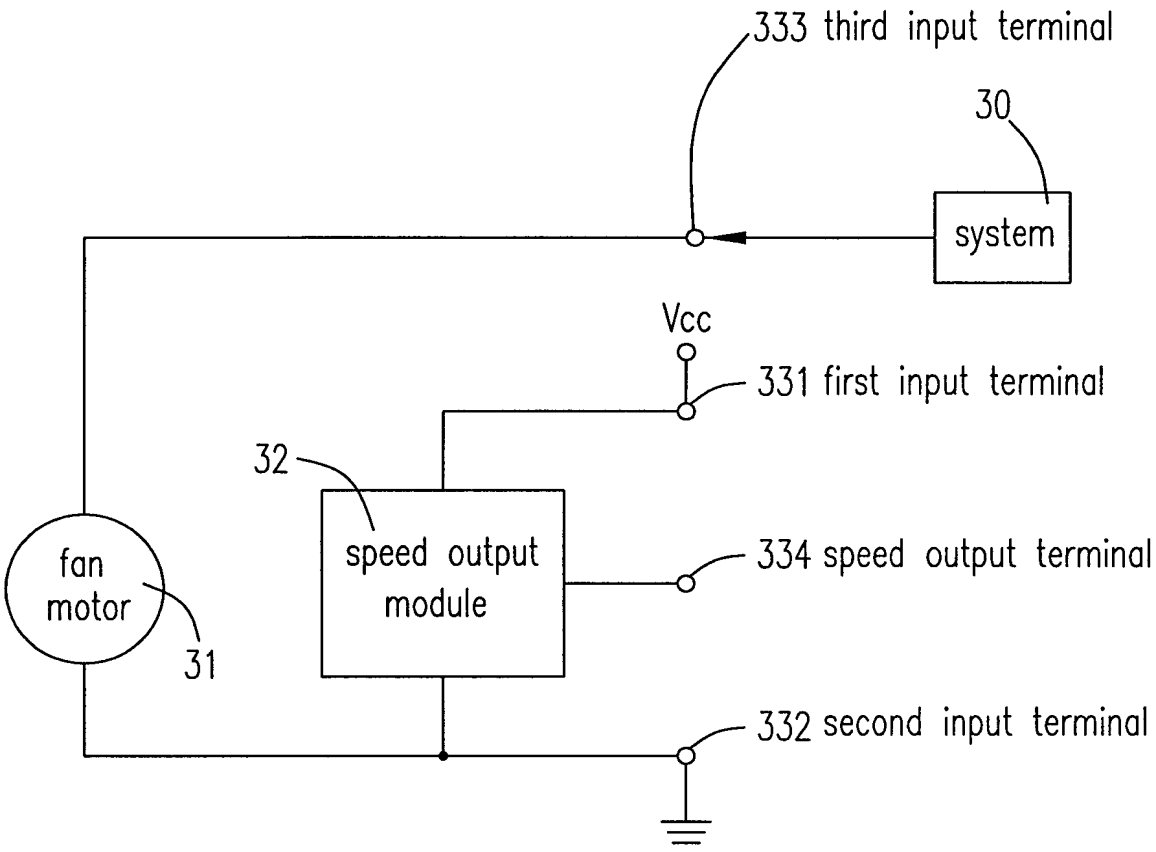
333 third input terminal
30
system
Vcc
331 first input terminal
32
speed output module
334 speed output terminal
fan motor
31
332 second input terminal

Fig. 3

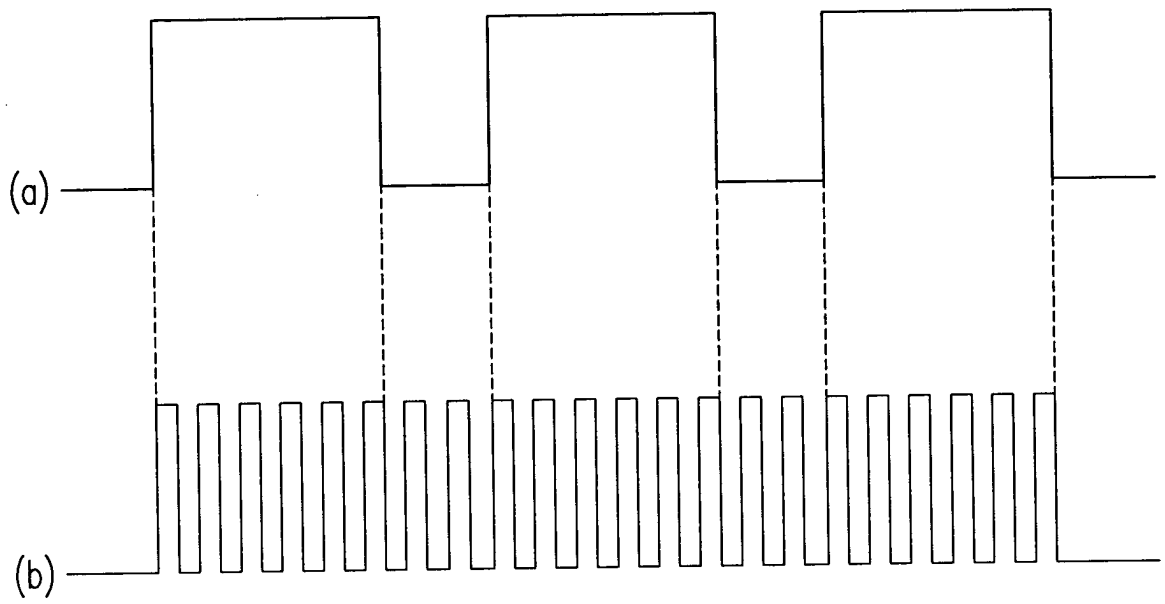

Fig. 4

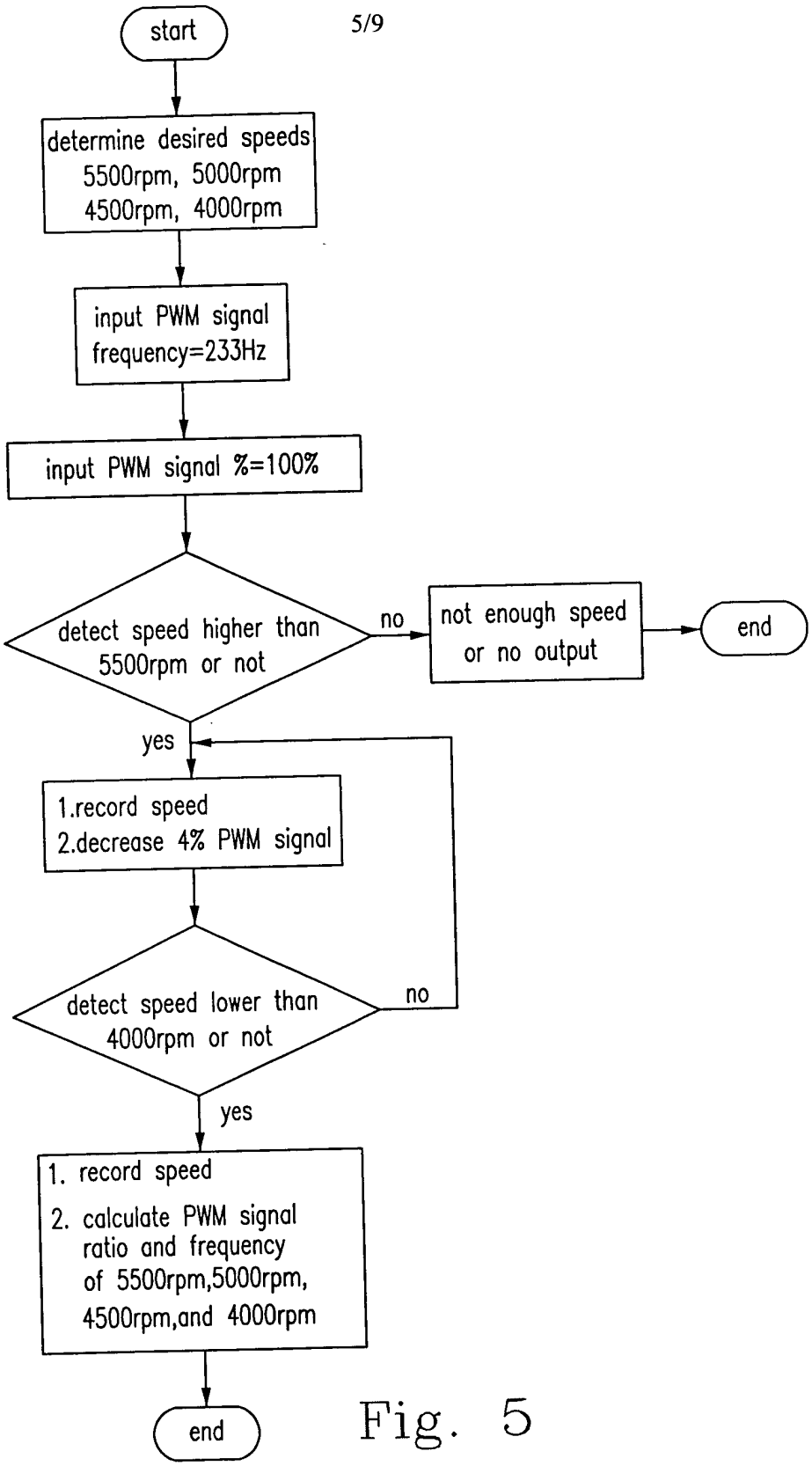
start
determine desired speeds
5500rpm, 5000rpm
4500rpm, 4000rpm
input PWM signal
frequency=233Hz
input PWM signal %=100%
detect speed higher than
5500rpm or not
no
not enough speed
or no output
end
yes
1.record speed
2.decrease 4% PWM signal
detect speed lower than
4000rpm or not
no
yes
1. record speed
2. calculate PWM signal
ratio and frequency
of 5500rpm,5000rpm,
4500rpm,and 4000rpm
end

Fig. 5

duty cycle ratio	fan1	fan2	fan3	fan4	fan5	fan6
100%	5743	5602	5846	5662	5787	5732
96%	5555	5511	5652	5568	5593	5634
92%	5489	5353	5491	5405	5518	5468
88%	5335	5197	5423	5250	5361	5399
84%	5259	5124	5265	5180	5203	5239
80%	5092	4967	5184	5017	5129	5079
76%	4922	4800	5021	4850	4963	4990
72%	4833	4708	4849	4760	4789	4820
68%	4653	4532	4751	4582	4691	4718
64%	4469	4427	4567	4476	4510	4530
60%	4349	4236	4377	4285	4396	4340
56%	4152	4040	4254	4088	4200	4212
52%	4005	3902	4048	3950	3998	4001
48%	3800		3900			3773

Fig. 6

speed	fan1	fan2	fan3	fan4	fan5	fan6	operating frequency
4000	7F	89	7F	87	84	84	266Hz
4500	A0	A5	9B	A0	9D	9D	300Hz
5000	C0	C8	BB	C5	BE	BE	333Hz
5500	E6	ED	E6	EB	E3	E6	366Hz

Fig. 7

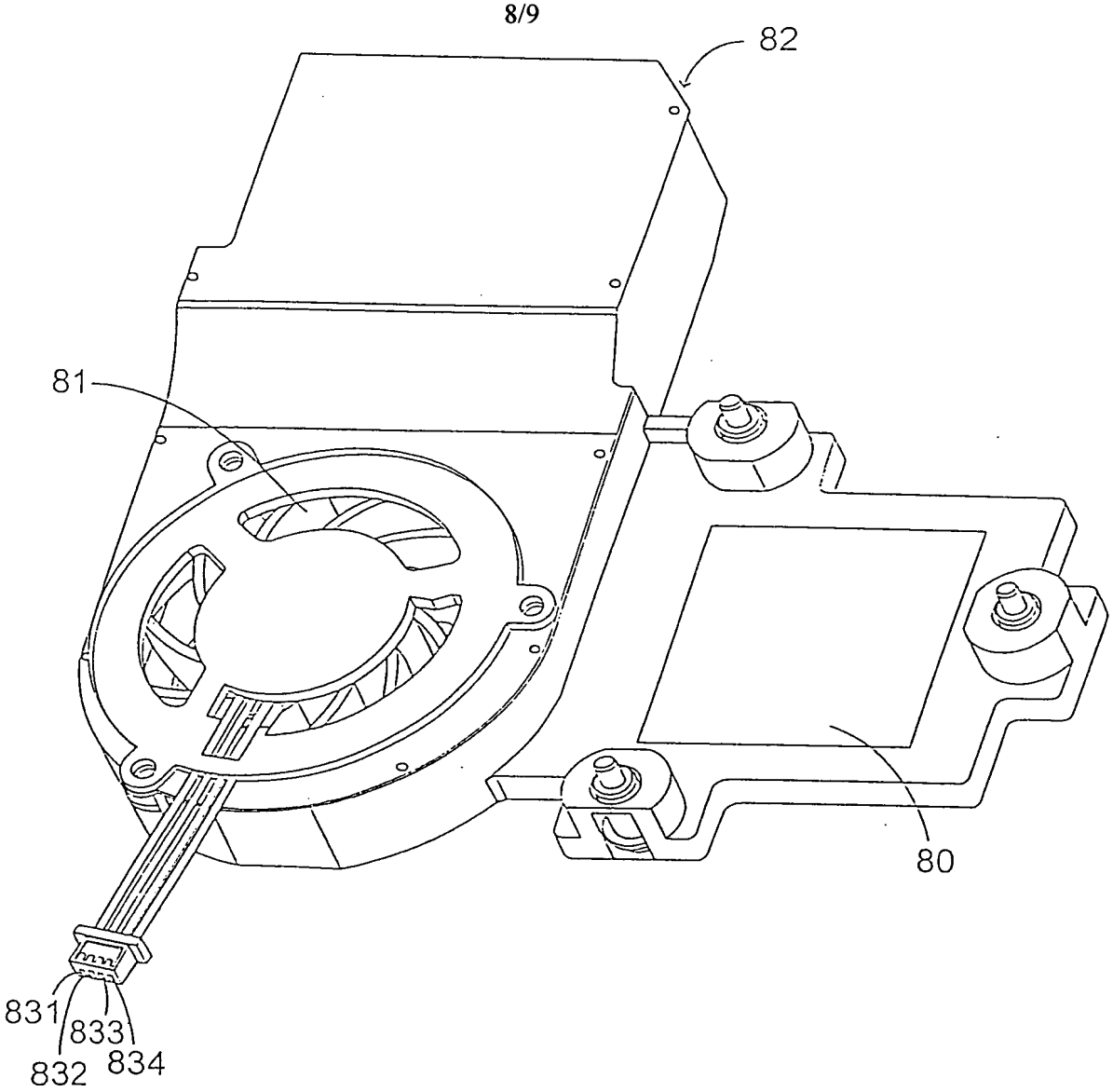

Fig. 8

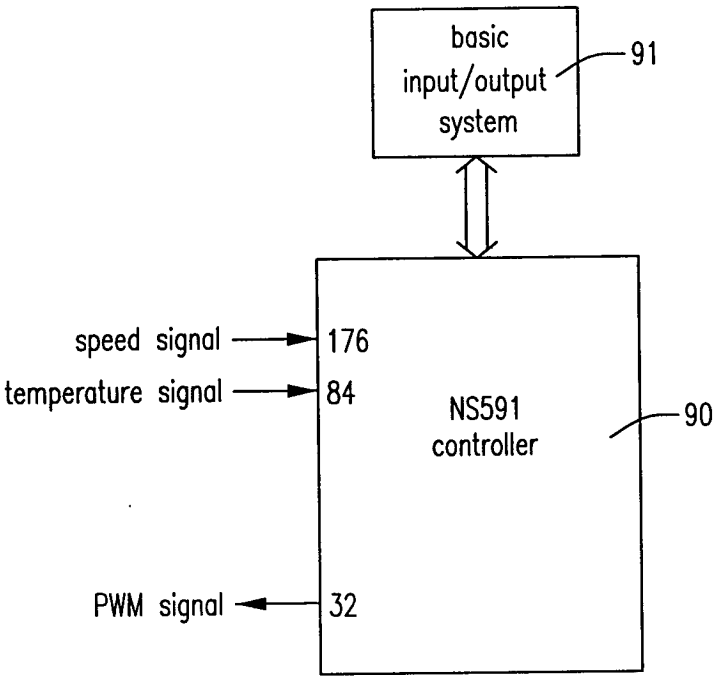
basic
input/output
system
91
speed signal
176
temperature signal
84
NS591
controller
90
PWM signal
32

Fig. 9